

REMARKS

This is in response to the Office action mailed on August 16, 2004. Claims 19-23 were pending in that action, and were rejected under 35 U.S.C. § 102(e) as being anticipated by Greenhalgh (U.S. Patent No. 6,391,037). However, the applicant must respectfully point out that the rationale of the rejection is based on a clearly erroneous characterization of Greenhalgh, as specifically elaborated below. The applicant accordingly believes that Greenhalgh, properly characterized, does not anticipate claims 19-23 in their present form, and requests that the Office allow claims 19-23 in light of the remarks herein.

Specifically, the final rejection alleges that Greenhalgh anticipates claim 19 by showing "an aneurysm treatment device... including: a sac (42) having a relaxed state (as best seen in fig. 5) which is capable of passing through an artery and an aneurysm neck (20)..." (Office action, p. 2.)

However, this is an inaccurate characterization of the disclosure of Greenhalgh, and instead attributes to Greenhalgh what is disclosed by the present invention. Only by relying on the leap between the actual disclosure of Greenhalgh and this erroneous mischaracterization of Greenhalgh, for example, can novel aspects of claim 19 be reinterpreted in hindsight as allegedly being anticipated.

The rejection of claim 19 is largely centered around the alleged "relaxed state" of the sac in Greenhalgh, as is alleged in the Office action to be "best seen in fig. 5" of Greenhalgh. In contrast to the characterization alleged in the Office action, the specification of Greenhalgh clearly describes the state depicted in figure 5 in a way that plainly conflicts with the characterization in the Office action:

The other shape state, 42b, is assumed by the bag when it is stretched longitudinally between its ends 56 and 58, the yarns 50 of the brain structure 48 resiliently deforming and rotating relative to each other (the "trellis effect") to collapse the expanded diameter and convert bag 42 from its expanded shape state 42a to its smaller diameter, collapsed shape state 42b...

When under tension and forced into the collapsed shape state 42b, the bag 42 slidably interfits within lumen 34 as illustrated in FIG. 5. The bag is held in that shape state by contact with the wall 60 of the catheter while positioned within the lumen. When the bag is forced out of the lumen, as seen in FIG. 6, it will expand to its larger diameter shape state 42a due to the biasing of the yarns 50. (Greenhalgh, col. 7 line 56 - col. 8 line 2, emphasis added.)

This clearly shows that the particular shape state of the Greenhalgh device that is capable of passing through an artery and an aneurysm neck is that shape state which is "stretched longitudinally", "resiliently deform[ed]", of a "smaller diameter, collapsed shape state", and "under tension and forced into the collapsed shape state".

None of these descriptions is compatible with a shape state that is relaxed, as Greenhalgh is alleged to disclose in the Office action. In particular, a state cannot be both relaxed and "stretched longitudinally"; or both relaxed and "resiliently deform[ed]"; or both relaxed and in a "smaller diameter, collapsed shape state"; or both relaxed and "under tension and forced into the collapsed shape state". Yet this shape state that is "under tension and forced into the collapsed shape state" is

the only shape state disclosed and depicted in Greenhalgh that is capable of passing through an artery.

On the other hand, Greenhalgh makes plain the true characteristics of the relaxed state of its device: when it is forced out of the lumen, "it will expand to its larger diameter shape state 42a due to the biasing of the yarns 50". (Greenhalgh, col. 8 lines 1-2.) The shape to which the device transforms - in this case expands - due to the biasing of its substituent materials, and which reduces the stretching, resilient deforming, collapsedness, tension, and force, must by definition be the relaxed state. The Oxford American Desk Dictionary (Oxford University Press 1998) includes definitions of "relax" as "make or become less stiff, rigid, tense, or formal", and "at ease; unperturbed". Since the shape state in which the Greenhalgh device is capable of passing through an artery and an aneurysm wall is necessarily "under tension", and its shape state after it is released from the lumen is expanded due to its own biasing, the released shape state must also be under less tension than in the "under tension" shape state. To "make... less... tense" is one of the very dictionary definitions of "relax", while something that is made more tense must, by inverse definition, be the opposite of relaxed.

Therefore, Greenhalgh could not be plainer and more explicit in disclosing a device that in its relaxed state is expanded to a degree that excludes a capability of passing through an artery and an aneurysm neck, while the device is only capable of passing through an artery and an aneurysm neck when it is in a "stretched", "tens[ed]", "forced", and "deform[ed]" state that is by definition opposite to relaxed or unstretched.

Therefore, Greenhalgh clearly does not disclose the elements of claim 19 of the present application. Specifically,

Greenhalgh clearly does not disclose what is alleged to be disclosed in the Office action, of "an aneurysm treatment device... including: a sac (42) having a relaxed state (as best seen in fig. 5) which is capable of passing through an artery and an aneurysm neck (20)..."

This is more than a structural distinction, as well; it goes directly to the contrasting performance of the inventions embodied by Greenhalgh and by claim 19 of the present application. Because the Greenhalgh invention may be radially wider in its relaxed state than an artery or aneurysm neck associated with a target aneurysm, if the tension that restricts its radial diameter should fail for any reason at the wrong time, such as by being forced out of a lumen prematurely or by the failure of a lumen, for example, the success of an operation could be compromised. Likewise, because the Greenhalgh invention is resiliently biased to a predetermined expanded radial dimension, it may be inaccurate in matching the dimensions of an aneurysm. A greater than desired radial sac dimension may exert unwanted pressure on the aneurysm wall, or even cause the aneurysm to burst, while too little radial dimension may prevent the sac from being effective. Because the sac of the amended claim 19 has a radial dimension sized to pass through an artery and an aneurysm neck when in its relaxed, unstretched state, and expands radially due to increasing internal pressure, which in an illustrative embodiment might be controllably caused after assuring that the sac has been properly positioned in the target aneurysm, the invention of claim 19 has unexpected and inventive functional and performance advantages not disclosed or suggested by Greenhalgh.

The applicant respectfully indicates that in his understanding, because Greenhalgh does not disclose the elements

of claim 19, claim 19 has gone through prosecution without having been subjected to a well-founded rejection. Because the inventor "shall be entitled to a patent unless" such a well-founded rejection is presented (35 U.S.C. 102, emphasis added), the inventor of the present application is believed to be entitled to a patent on claim 19.


As for claims 20-23, they are dependent on claim 19 and therefore share in the novelty of claim 19 over the disclosure of Greenhalgh. They also include additional distinctions, such as the sac being formed of an axially oriented polymer material as in claim 20, while Greenhalgh instead teaches braided, "trellis effect" structures (e.g. col. 3, lines 31-41), which do not anticipate the axially oriented material of claim 20.

For reasons such as those presented above, the applicant respectfully submits that Greenhalgh does not teach or suggest claims 19-23, and respectfully requests that the Office reconsider and allow these claims.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

Bryan F. Erickson, Reg. No. 51,655
Suite 1600 - International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312